



CITY OF SAN CARLOS

AGENDA CATEGORY:

BUSINESS SESSION: _____

CONSENT CALENDAR: _____

PUBLIC HEARING: _____

STUDY SESSION: _____

_____: _____

COUNCIL/RDA MEETING DATE: August 9, 2010

ITEM TITLE: Consideration of adopting the 2010 California Green Building Standards Code (CALGreen), Part 11, with mandatory Tier 1 energy efficiency standard provisions, and modifications and amendments, and add Section 15.04.125 to Chapter 15 as "San Carlos Green Building Ordinance."

RECOMMENDATION

It is recommended that the City Council adopt the 2010 California Green Building Standards Code (CALGreen), Part 11, with mandatory Tier 1 energy efficiency standard provisions, and modifications and amendments, and add Section 15.04.125 to Chapter 15 as "San Carlos Green Building Ordinance."

FISCAL IMPLICATIONS

There is minimal cost to the General Fund resulting from the proposed adoption of the enhanced 2010 California Green Building Standards Code (CALGreen). Staff training is required to prepare for State mandated enforcement of the code as of January 1, 2011. Anticipated cost to train staff is included in the Building Division operating budget and will be on-going, but not exceeding \$3000 through FY2010-11.

SUMMARY

A "San Carlos Green Building Ordinance" for consideration by the City Council is based upon Council direction, stakeholder input, consistency with other communities, CALGreen, and staff input (See Attachment 1: San Carlos Green Building Ordinance).

- Adopt CALGreen with mandatory Tier 1 provision (15% above Title-24 Energy Efficiency Standards).
- Recognize Build It Green, GreenPoint, LEED, Title-24 Energy Efficiency Standards, and other approved methods as means by which compliance is measured.
- Expand CALGreen to include the following residential projects:
 - a) New single-family residences.
 - b) Residential additions over 500 square feet.
 - c) Residential reconstruction (as defined).
 - d) New multi-family dwellings.
 - e) Multi-family additions over 500 square feet.
- Expand CALGreen to include the following non-residential projects:
 - a) New commercial buildings.
 - b) Commercial building additions over 5000 square feet.
 - c) Mixed-use buildings.
- Establish equivalent methods for other compliance systems (Building It Green, GreenPoint, LEED, etc.).
- Write equivalent San Carlos Title-24 Energy Prescriptive Package "D-Green" for residential additions.

- Coordinate new San Carlos Green Building Ordinance with other City Department ordinances (Recycling, zoning, parking, landscape, site drainage, etc.).
- Consider incentives (expedited plan review or next day inspections) for applicants that choose optional Tier 2 provision (30% above Title-24 Energy Efficiency Standards).

The intent of the San Carlos Green Building Ordinance is to encourage energy efficient building practices through ingenuity, creativity, collaboration, and a flexible means by which the applicant chooses to achieve compliance. The San Carlos Green Building Ordinance will improve efficiency by which buildings operate within the City, and help the State achieve reduced green house gas emission goals.

BACKGROUND

In October of 2009, the San Carlos City Council Adopted Climate Action Plan Resolution 2009.080, establishing energy use measures for the built environment. The Climate Action Plan provides strategies to reduce green house gas emissions consistent with Governor Schwarzenegger's directive & AB 32 resulting in a reduction of green house gas emissions to 1990 levels by 2020. With the adoption of the Climate Action Plan Resolution 2009.080, the City Council gave staff direction in the following areas:

- Establish energy standards for new construction and remodel projects that exceed Title-24 Energy Efficiency Standards by 15%.
- Adopt a green building standard for all new development and major remodels.
- Develop a green building ordinance that is consistent with that of neighboring agencies or that is custom to the City of San Carlos.
- Adopt green building standards that require Build It Green's GreenPoint, LEED, or equivalent green building measures.

Prior to adoption of the City's Climate Action Plan, the State developed what is now known as the 2010 California Green Building Standards Code (CALGreen) which is mandatory and takes effect January 1, 2011. CALGreen is the first statewide mandatory green building code in the nation that sets minimum standards to significantly reduce California's green house gas emissions. CALGreen is the direct result of AB 32 and involved input from numerous stakeholder groups throughout the code adoption process. Cities throughout California will be required to enforce CALGreen and dovetail locally-influenced green building ordinances by January 1, 2011.

ANALYSIS

Conventional Building Practices

It is widely held that the conventional approach to building practice is unsustainable. Buildings are the 2nd largest contributor to green house gas emissions (23.7%), second to transportation (37.6%). According to the Department of Energy, buildings in the United States use 40% of the raw materials globally and produce 135 million tons of construction and demolition debris annually. Water-related uses account for 19% of California's electricity, 30% of its natural gas, and 88 billion gallons of diesel fuel every year. Green building practices attempt to modify this approach to construction by:

- Encouraging conservation of natural resources.
- Reducing waste in landfills generated by construction projects.
- Increasing energy efficiency and lowering energy usage.
- Reducing the operating and maintenance costs for buildings.
- Promoting a healthier indoor environment.
- Promoting use of recycled material.

California Green Building Standards Code (CALGreen)

The 2010 California Green Building Standards Code (CALGreen) takes effect January 1, 2011. CALGreen is the first statewide mandatory green building code in the nation that sets minimum standards to significantly reduce California's carbon emissions. CALGreen is the direct result of AB 32 and involved input from various stakeholder groups throughout the writing process. Cities throughout California will be required to enforce CALGreen and dovetail locally-influenced green building ordinances into the code by January 1, 2011. The recommended San Carlos Green Building Ordinance utilizes CALGreen as its foundation. CALGreen includes measures for water conservation, solid waste reduction measures, and energy efficiency measures. Regarding energy efficiency, CALGreen features two-tier voluntary provisions (15% & 30% above Title 24 Energy Efficiency Standards) that jurisdictions may adopt to go beyond minimum Title- 24 Energy Efficiency Standard requirements. The tier provisions are designed to become mandatory when adopted by local jurisdictions. Once adopted, they become part of the local building department's inspection process.

The City of San Carlos adopts California Code of Regulations Title-24 (State Building Codes) and any local amendments into Title 15, Building and Construction, of the San Carlos Municipal Code. Specifically, Chapter 15.04, Technical Building Codes, including California Building Code (Volumes 1 & 2), California Plumbing Code, California Electrical Code, California Mechanical Code, California Energy Code, California Fire Code, California Administrative Code, California Referenced Standards Code, as well as the new California Residential Code and CALGreen. These are amended as the State amends codes, and generally, these codes are amended frequently by the State if not every couple years. CALGreen would include amendments and add a new Section to Chapter 15.04 of the San Carlos Municipal Code.

San Carlos Green Building Ordinance

As presented in the analysis below, Staff is recommending Tier 1 (15% above Title 24 Energy Efficiency Standards) be adopted as mandatory and Tier 2 (30% above Title 24 Energy Efficiency Standards) remain a voluntary option to applicants. Staff has explored the feasibility of incentives such as expedited plan review and next day inspections for applicants considering the Tier 2 option, as further described below. The California Building Standards Commission (CBSC) was relied upon for input for San Carlos in considering 15% above Title-24 Energy Efficiency Standards. The adoption of specific Tier 1 code sections in this ordinance is a result of and in compliance with the California Building Standards Commission input.

Outreach

The Building Official and Plan Check Engineer engaged in two Green Building Stakeholder meetings with architects, engineers, designers, contractors, realtors, Sierra Club (Loma Prieta Chapter), Cool Cities, and San Carlos Green resulting in 23 participants (See Attachment 2: Stakeholder List). Many attendees of the Green Building Stakeholder meetings were also San Carlos citizens. The stakeholder meetings took place June 9th and July 14th to discuss various elements that should be included in the City's green building efforts. Invitees that could not attend provided staff with input via email or telephone. The emphasis of the Green Building Stakeholder meetings was to gain input from those most affected by a green building ordinance and draft the San Carlos Green Building Ordinance accordingly (See Attachment 5: Correspondence).

Additionally, staff consulted with a peer group of Building Officials in cities that have green building ordinances already in place and those considering green building ordinances. All of the cities that have green building ordinances are now amending their ordinances to dovetail with CALGreen similar to the San Carlos Green Building Ordinance. Cities that do not have a green building ordinance currently in place are considering the San Carlos Green Building Ordinance as their model ordinance. Similarly, jurisdictions that already have green building ordinances will need to dovetail their current ordinances into CALGreen and re-present facts and findings to the California Building Standards Commission and the California Energy Commission for acceptance.

Offering Choices

Offering “Choices” was a common theme and an item of importance by the participants in the various outreach efforts. Choice for applicants was expressed in two arenas. First, an individual choice about what building materials and methods can be chosen; and second, a choice about how compliance with the numerical standards can be demonstrated.

Regarding choice of materials, the Code should allow flexibility to meet the green standards in use of design and materials. For the applicant, these choices are financial, design, lifestyle, etc., for example:

- Less glazing and more efficient windows.
- Roofing materials (cool roofs, etc.).
- Added insulation.
- More efficient HVAC systems.
- Solar orientation.
- More efficient water distribution and heating systems.
- No air-conditioning.

Regarding demonstration that the standards are met, the Code should also offer flexibility. For the applicant and/or rater, designer, architect, engineer, and/or building plan review professional, the standards can be administered based upon established criteria utilizing a variety of approaches, for example:

- Building It Green GreenPoints – 50 points is typically representative of 15% above Title 24
- LEED – LEED Residential, Silver, etc.
- Title 24 Energy Efficiency Standard – Prescriptive and Performance Packages.
- Other equivalent measures when approved by the Building Official.

In the methods of seeking input, there was a primary theme of providing choice and flexibility for applicants attempting to achieve compliance with ordinance requirements. To achieve this flexibility, individuals are provided with options on how to achieve compliance rather than mandate usage of point rating systems such as Build It Green GreenPoint or LEED. The intent is to provide a reasonable balance based upon interests, cost, and a means where there is flexibility with the application process.

Nationally recognized point systems such as Building It Green GreenPoint and LEED may be utilized as well as Title-24 Energy Efficiency Standards to comply with this ordinance. By utilizing in-house expertise, staff will continue to maintain reasonable plan review turn-around times and avoid an over-complicated application process. CALGreen and Title-24 Energy Efficiency Standards will continue to be rewritten with each Code cycle becoming more stringent over time.

Many stakeholders appreciated the flexibility by which the applicant can achieve 15% above Title-24 Energy Efficiency Standards as recommended in the San Carlos Green Building Ordinance, and other agencies are considering this ordinance as their model code.

Cost Effectiveness Study

Staff has included an Energy Cost Effectiveness Study applicable to San Carlos (Climate Zone 3) by Gabel Associates, LLC (See Attachment 3: Cost Effectiveness Study). Typical small single-family residences should expect an additional .82 cents per square foot cost with estimated pay-back time of approximately 15 years depending upon energy measures implemented. A typical low-rise commercial project should expect an additional \$1.50 per square foot cost with estimated pay-back time of approximately 6.4 years. Multi-family projects may see an additional \$1.20 per square foot

cost with average estimated pay-back time of 17 to 22 years.

Comparison to Other Cities / Agencies

Staff recognized the importance of consistency with regard to the San Carlos Green Building Ordinance implementation process. This was the single-most emphasized item amongst stakeholder group input not only with how the ordinance is written, but with how the ordinance is enforced (See Attachment 4: Comparison Matrix). CALGreen is now the benchmark that all cities must adopt. By January 1, 2011, the common ground for all agencies is CALGreen and how that will dovetail into local green building ordinances. The other common ground that needed to be addressed is the means by which applicants achieve compliance with various green building ordinances. The San Carlos Green Building Ordinance is based upon CALGreen, and recognizes current green point rating systems in addition to Title-24 Energy Efficiency Standards as a means to gain compliance. Although other Agencies have adopted Green Building ordinances in advance of the State, the new standards are in keeping with what the other agencies have implemented. Other agencies reliance on the use of green point rating systems may be re-evaluated. For San Carlos, a specific rating system is not recommended to be mandatory to allow for the applicant to choose what method may be best for compliance given type of project being built.

ALTERNATIVES

1. Adopt the 2010 California Green Building Standards Code (CALGreen), Part 11, with mandatory Tier 1 energy efficiency standard provisions, and modifications and amendments, and add Section 15.04.125 to Chapter 15 as "San Carlos Green Building Ordinance."; or
2. Do not adopt the 2010 California Green Building Standards Code (CALGreen), Part 11, with mandatory Tier 1 energy efficiency standard provisions, and modifications and amendments, and add Section 15.04.125 to Chapter 15 as "San Carlos Green Building Ordinance."; or
3. Provide staff with alternative direction.

Respectfully submitted,

Christopher Valley, Building Official

Approved for submission by:

Mark Weiss, City Manager

Attachments:

- 1) San Carlos Green Building Ordinance
- 2) Correspondence
- 3) Cost Effectiveness Study
- 4) San Carlos Green Building Ordinance Agency Comparison Matrix
- 5) Stakeholder List

Attachment 1

San Carlos Green Building Ordinance

Attachment 2
Correspondence

Attachment 3
Cost-Effectiveness Study

Attachment 4

San Carlos Green Building Ordinance Agency Comparison Matrix

Attachment 5
Stakeholder List